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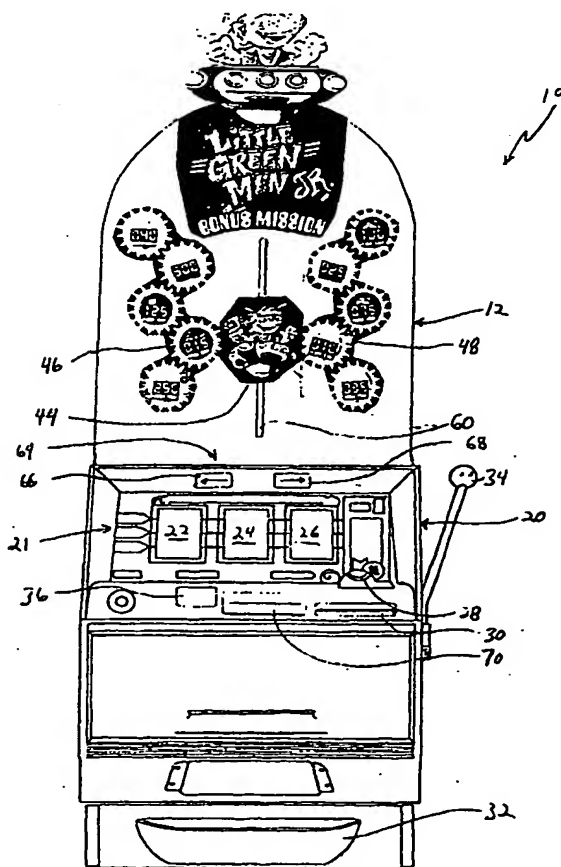
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(54) Title: GAMING DEVICE AND METHOD



(57) Abstract: The invention provides a highly attractive and entertaining device for displaying bonus prize objects. In addition, it provides players with the ability to participate in the selection of a bonus prize. The invention provides a gaming device (10) having a gaming apparatus (20) and a bonus display (12). The bonus display (12) indicates at least one of a plurality of bonuses using a mechanical bonus indicator (44). Each position of the indicator (44) includes at least two bonus prize, which may be selected by the player.

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GAMING DEVICE AND METHOD

This application claims priority to U.S. provisional patent application serial number
5 60/241,385, filed October 17, 2000.

BACKGROUND OF THE INVENTION

1. Field of Invention

The present invention relates to gaming devices and, more particularly, to a gaming
10 device and method having a moving bonus indicator.

2. Description of Related Art

Gaming Devices

Gaming devices are well known in the art and a large variety of gaming devices have
15 been developed. In general, gaming devices allow users or players to play a game. In many
casino-type gaming devices, the outcome of the game depends, at least in part, on a randomly
generated event. For example, a gaming device may use a random number generator to generate
a random or pseudo-random number. The random number may then be compared to a predefined
table to determine the outcome of the event. If the random number falls within a certain range of
20 numbers on the table, the player may win a predefined prize. The table may also contain display
information that allows the gaming device to generate a display that corresponds to the outcome
of the game. The gaming device may present the outcome of the game on a large variety of
display devices, such as mechanical spinning reels or video screens.

Bonus Prizes

Some gaming devices award bonus prizes in addition to prizes that are awarded in the primary game. A bonus prize can be defined as an additional prize that is awarded to the player when a predefined event occurs. An example of a bonus game can be found in U.S. patent
5 number 5,848,932 issued to Adams, which is hereby incorporated by reference. One of the gaming devices described in this document comprises three spinning reels and a spinning wheel bonus display. When predetermined indicia are displayed on the spinning reels of the primary game, the wheel can be activated to indicate a bonus prize. The bonus prize is awarded in addition to any prizes awarded in the primary game.

10 Generally, bonus prizes are given in such games in order to increase the excitement and enjoyment experienced by players, which attracts more players to the game and encourages players to play longer. When this occurs, the gaming devices tend to be more commercially successful relative to other gaming devices. A shortcoming of present bonus games is that they do not sufficiently allow players to participate in awarding of bonus prizes.

Display Devices

15 Highly visible display devices are utilized on gaming devices in order to attract players. Once players are attracted to the gaming device, they tend to play longer because the display device enhances the stimulation and excitement experienced by players. It is, therefore, desirable for gaming devices to incorporate highly visible display devices.

20 Display devices tend to be more successful if they utilize moveable physical objects rather than simulations. Although video devices and electronic signs can be used for display devices, players are more attracted to display devices that utilize physical objects. Physical objects can be even more effective display devices if the player is allowed to participate in the

operation of the object.

In view of the foregoing, there is a need in the art for a gaming device that provides bonus prizes with a physically movable and attractive bonus display, and allows selection of bonus prizes.

5

SUMMARY OF INVENTION

1. Advantages of the Invention

An advantage of the present invention is that it provides a highly attractive and entertaining device for displaying bonus prizes.

10 Another advantage of the present invention is that it allows players to participate in the selection of a bonus prize.

These and other advantages of the present invention may be realized by reference to the remaining portions of the specification, claims, and abstract.

15 2. Brief Description of the Invention

The present invention provides a gaming device having a gaming apparatus and a bonus display. The gaming device includes a gaming outcome display. The bonus display indicates at least one of a plurality of bonuses using a mechanical bonus indicator. The bonus indicator is linearly movable by a drive mechanism that positions the indicator at one of a plurality of bonus
20 indicating positions. A selector for allowing a user to select between bonus prizes may also be provided.

Also provided is a method of conducting a wagering game of chance. The method includes the step of positioning a mechanical bonus indicator at one of a plurality of physical

positions to indicate a bonus set. Each bonus set includes at least two bonus prizes. The method also includes the step of allowing the player to select one of the bonus prizes.

The above description sets forth, rather broadly, the more important features of the present invention so that the detailed description of the preferred embodiment that follows may be better understood and contributions of the present invention to the art may be better appreciated. There are, of course, additional features of the invention that will be described below and will form the subject matter of claims. In this respect, before explaining at least one preferred embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of the construction and to the arrangement of the components set forth in the following description or as illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting.

15

BRIEF DESCRIPTION OF THE DRAWINGS

Preferred embodiments of the present invention are shown in the accompanying drawings wherein:

Figure 1 is substantially a front view of the gaming device of the present invention.

Figure 2 is substantially a partial cross-sectional view of the gaming device of figure 1.

20

DESCRIPTION OF THE PREFERRED EMBODIMENT

In the following detailed description of the preferred embodiments, reference is made to the accompanying drawings, which form a part of this application. The drawings show, by way

of illustration, specific embodiments in which the invention may be practiced. It is to be understood that other embodiments may be utilized and structural changes may be made without departing from the scope of the present invention.

As seen in figure 1, the present invention comprises a gaming device, generally indicated
5 by reference number 10. In one preferred embodiment, gaming device 10 comprises a bonus display 12 and a game apparatus 20.

Game Apparatus

With continuing reference to figure 1, game apparatus 20 may be any of a large number
10 of devices that are adapted to allow players to play a game. For example, game apparatus 20 may include a gaming outcome display 21 that utilizes spinning reels 22, 24, 26 or a video display (not shown) to display outcomes of the game. A wager acceptor, such as a coin slot 28 or card reader 30, may also be provided for accepting wagers. In addition, a payout mechanism, such as a coin dispenser 32, may be provided for awarding prizes. A handle 34 and button 36 are
15 provided for activating game apparatus 20 to begin a game. In at least one preferred embodiment, game apparatus 20 may be an S Plus model gaming device manufactured by International Game Technology in Reno, Nevada.

Referring also to figure 2, game apparatus 20 is preferably controlled by an electronic controller 40 that utilizes a random number generator 42. Random number generator 42
20 produces a random or pseudo random number for each game. The outcome of the game may be determined by comparing the random number to a table of outcomes stored in a memory and accessed by controller 40. A number of different tables of outcomes may be used and different tables may be used for different games. The tables can be designed so that different prizes have

different probabilities of being awarded. Such design techniques are well known in gaming.

Examples of such designs are shown in U.S. patent number 4,448,419, issued to Telnaes, and

U.S. patent number 5,456,465, issued to Durham, which are hereby incorporated by reference.

Controller 40 causes gaming outcome display 21 (fig. 1), e.g., spinning reels 22, 24, 26, to show

5 the outcome of the game that corresponds to the outcome of random number generator 42. It is recognized that game apparatus 20 may operate in many other ways and still achieve the objects of the present invention.

Game apparatus 20 may also be capable, via controller 40 or other bonus control mechanism (not shown), of producing a bonus-activating event. This event may be many
10 different types of events. For example, a bonus-activating event may comprise a game outcome such as displaying a particular symbol, e.g., a "bonus" symbol, or combination of symbols, such as three "7" symbols on reels 22, 24, 26. If the game being played is poker based, the bonus-activating event may be occurrence of a certain hand, such as a royal flush. Furthermore, a bonus-activating event may occur when a player accumulates a number of symbols or game
15 outcomes over a number of separate game plays. For example, a bonus-activating event may occur when the player receives three "bonus" symbols during a period of time. The bonus-activating event may be based on an external event. For example, a bonus-activating event may occur when a group of players obtain a certain result.

20 Bonus Display

Referring again to figure 1, bonus display 12 is adapted to select a bonus prize and display the prize to a player. When bonus display 12 is informed that a bonus-activating event has occurred, bonus display 12 causes indicator 44 to move linearly (in this case vertically) to a

selected height. A plurality of stop positions (levels) is provided, and each position indicates one of a plurality of bonus sets. Each bonus set includes at least two bonus prizes, which are displayed adjacent indicator 44. In the example shown, there are five different vertical stop positions, each indicating two bonus prizes, and indicator 44 has stopped at a height that has
5 bonus prize displays 46 and 48. Also in this example, indicator 44 is a space ship with an alien pilot and prize displays 46 and 48 appear to be planets or stars. However, many other shapes and objects may be used for indicator 44 or prize displays 46, 48.

As shown in figure 2, indicator 44 is made to move up and down by a drive mechanism 50. The drive mechanism may be a large variety of different devices. For example, as shown in
10 figure 2, drive mechanism 50 may be a vertically positioned worm gear 52 that is caused to rotate by a motor 54. Indicator 44 may be attached to worm gear 52 by a bracket 56 that is attached to a nut 58 threaded on worm gear 52. A slot 60 (best shown in figure 1) may be provided in the front face of bonus display 12, which allows bracket 56 to pass through the face. Sensors 62 may be provided to allow controller 40, or other bonus control mechanism (not shown), to detect the
15 position of indicator 44. While indicator 44 was shown to move vertically, it may also be moved horizontally, or diagonally or in a non-linear fashion such as in rotating manner.

Once indicator 44 has stopped, the player is then given the opportunity to select one of the prizes indicated. In the exemplary display shown, the user may select either the left bonus prize displayed 46 or the right bonus prize displayed 48. The player may indicate his or her
20 choice by making a selection via a selector that may take a variety of forms. In one preferred embodiment, shown in figure 1, a selector 64 includes buttons 66 and 68 that allow the player to select the corresponding prize display. For example, the player would press the left button 66 to select the left bonus prize 46. Alternatively, a touch screen (not shown) may be provided in

place of or in addition to buttons 66 and 68. The selector may be any other now known or later developed mechanism for selecting between two items.

Once the player has selected the bonus prize, bonus display 12 would display the bonus prize won by the player. For instance, the selected bonus prize 46, 48 may blink or have some
5 other indication of selection.

In one preferred embodiment, the bonus prizes are randomly generated. The controller generates a random number for each bonus prize to be awarded, and then compares the random number to a pay table similar to that described for game apparatus 20 or as described in U.S. patent number 5,823,874, issued to Adams, which is hereby incorporated by reference. A simple
10 pay table may appear as follows:

| Random Number | Amount Paid |
|---------------|-------------|
| 0.00 to 0.50 | \$1.00 |
| 0.51 to 0.75 | \$5.00 |
| 0.76 to 0.95 | x 2 |
| 0.96 to 1.00 | \$1,000.00 |

For example, if random number generator 42 produced 0.65, \$5.00 would be awarded to the player. If the random number generator produced 0.80, the player would receive a multiplier of
15 2. The multiplier multiplies some amount produced by game apparatus 20. Gaming apparatus 20, for instance, may award \$20 and the multiplier would multiply this by two, awarding the player \$40.

The bonus selection process may be repeated to accumulate several bonus prize selections that are added to form the award to the game player. The bonus selection process can be repeated
20 a pre-determined number of times. For example, the bonus game could be repeated three times

to accumulate an award.

The present invention is not limited to the example pay table shown. Furthermore, different kinds of bonus prizes, besides monetary prizes, may be awarded. For example, the bonus prizes may be goods, services, or additional games.

5 Once controller 40 (fig. 2) determines the bonus prizes to be awarded, controller 40 causes the appropriate bonus prize displays 46, 48 to display the prizes for selection by the user. Bonus prize displays 46, 48 may be a large number of devices that are well known in the art. For example, the displays may be an LED meter.

10 Other effects may also be presented, such as pre-recorded sound from speakers. If the actual bonus prize is money, the amount of the bonus prize may be added to the player's credit meter (not shown) or the bonus prize may be dispensed from dispenser 70 or coin dispenser 32.

Many other methods may be used to operate the present invention. For example, the player may be allowed to select the vertical height of indicator 44. Additional buttons or a touch screen may enable this function.

15 Another embodiment of the invention includes a method of conducting a wagering game of chance comprising the steps of: providing a player with an opportunity to place a wager; displaying a gaming outcome at a gaming outcome display; determining an award of a bonus set including at least two bonus prizes; positioning a mechanical bonus indicator at one of a plurality of physical positions to indicate the bonus set; and allowing the player to select one of the bonus
20 prizes. The step of positioning the mechanical bonus indicator may include linearly moving the bonus indicator to one of a plurality of physical positions.

CONCLUSION

Although the description above contains many specifications, these should not be construed as limiting the scope of the invention but as merely providing illustrations of some of presently preferred embodiments of this invention. Thus, the scope of the invention should be
5 determined by the appended claims and their legal equivalents rather than by the examples given.

CLAIMS

What is claimed is:

1. A gaming device comprising:
 - (A) a gaming apparatus having a gaming outcome display; and
 - 5 (B) a bonus display for indicating at least one of a plurality of bonuses, the bonus display device including a mechanical bonus indicator and a drive mechanism for moving the mechanical bonus indicator to one of a plurality of bonus indicating positions.
- 10 2. The gaming device of claim 1 wherein the gaming apparatus includes a controller for providing random gaming outcomes.
3. The gaming device of claim 1 further comprising a selector for allowing a user to select one of a plurality of bonuses indicated by the bonus indicating position of the bonus
15 indicator.
4. The gaming device of claim 1 further comprising a wager acceptor.
5. The gaming device of claim 1 further comprising a payout mechanism.

6. A gaming device comprising:
- (A) a gaming apparatus having a gaming outcome display;
 - (B) a bonus display device for indicating awarding of one of a plurality of bonus sets, each bonus set including at least two bonus prizes; and
 - 5 (C) a selector for selecting a bonus prize of the awarded bonus set.
7. The gaming device of claim 6 wherein the gaming apparatus includes a controller for providing random gaming outcomes.
- 10 8. The gaming device of claim 6 wherein the selector includes a set of buttons for allowing a user to select a bonus prize from the bonus set indicated by the bonus display.
9. The gaming device of claim 6 further comprising a wager acceptor.
- 15 10. The gaming device of claim 6 further comprising a payout mechanism.
11. The gaming device of claim 6 wherein the bonus display includes a drive mechanism for linearly moving a mechanical bonus indicator to a position that indicates one of the plurality of bonus sets.
- 20 12. The gaming device of claim 6 wherein the bonus display includes a drive mechanism for non-linearly moving a mechanical bonus indicator to a position that indicates one of the plurality of bonus sets.

13. The gaming device of claim 11 wherein the selector includes a set of buttons for allowing a user to select a bonus prize from the bonus set indicated by the bonus indicator.
14. The gaming device of claim 6 wherein the awarding of bonus sets is repeated so as to
5 accumulate prizes.

15. A method of conducting a wagering game of chance comprising the steps of:
- (A) providing a player with an opportunity to place a wager;
 - (B) displaying a gaming outcome at a gaming outcome display;
 - (C) determining an award of a bonus set including at least two bonus prizes;
 - 5 (D) positioning a mechanical bonus indicator at one of a plurality of physical positions to indicate the bonus set; and
 - (E) allowing the player to select one of the bonus prizes.
16. The method of claim 15 wherein the step of positioning the mechanical bonus indicator includes linearly moving the bonus indicator to one of a plurality of physical positions.
- 10
17. The method of claim 15 wherein the step of positioning the mechanical bonus indicator includes non-linearly moving the bonus indicator to one of a plurality of physical positions.
- 15
18. The method of claim 15 further comprising the steps of:
- a) repeating determining the award of the bonus set;
 - b) positioning the mechanical bonus indicator at one of the plurality of physical positions to indicate the bonus set; and
 - 20 c) allowing the player to select one of the bonus prizes such that the player accumulates several bonus prizes.

19. A gaming device comprising:

- (A) means for providing a player with an opportunity to place a wager;
- (B) means for displaying a gaming outcome at a gaming outcome display;
- (C) means for determining an award of a bonus set including at least two bonus prizes;
- (D) means for positioning a mechanical bonus indicator at one of a plurality of physical positions to indicate the bonus set; and
- (E) means for allowing the player to select one of the bonus prizes.

20. A method of conducting a wagering game of chance comprising the steps of:
- (A) providing a player with an opportunity to place a wager;
 - (B) displaying a gaming outcome at a gaming outcome display;
 - 5 (C) determining if a bonus qualifying event has occurred;
 - (C) determining a bonus award in response to the bonus-qualifying event, the bonus award being one of at least two bonus prizes;
 - (D) positioning a mechanical bonus indicator at one of a plurality of physical positions to indicate the bonus prizes; and
 - 10 (E) allowing the player to select one of the bonus prizes.
21. The method of claim 20 wherein the mechanical bonus indicator moves linearly.
22. The method of claim 20 further comprising the step of awarding the prize to the player.
- 15 23. The method of claim 20 wherein the mechanical bonus indicator moves non-linearly.

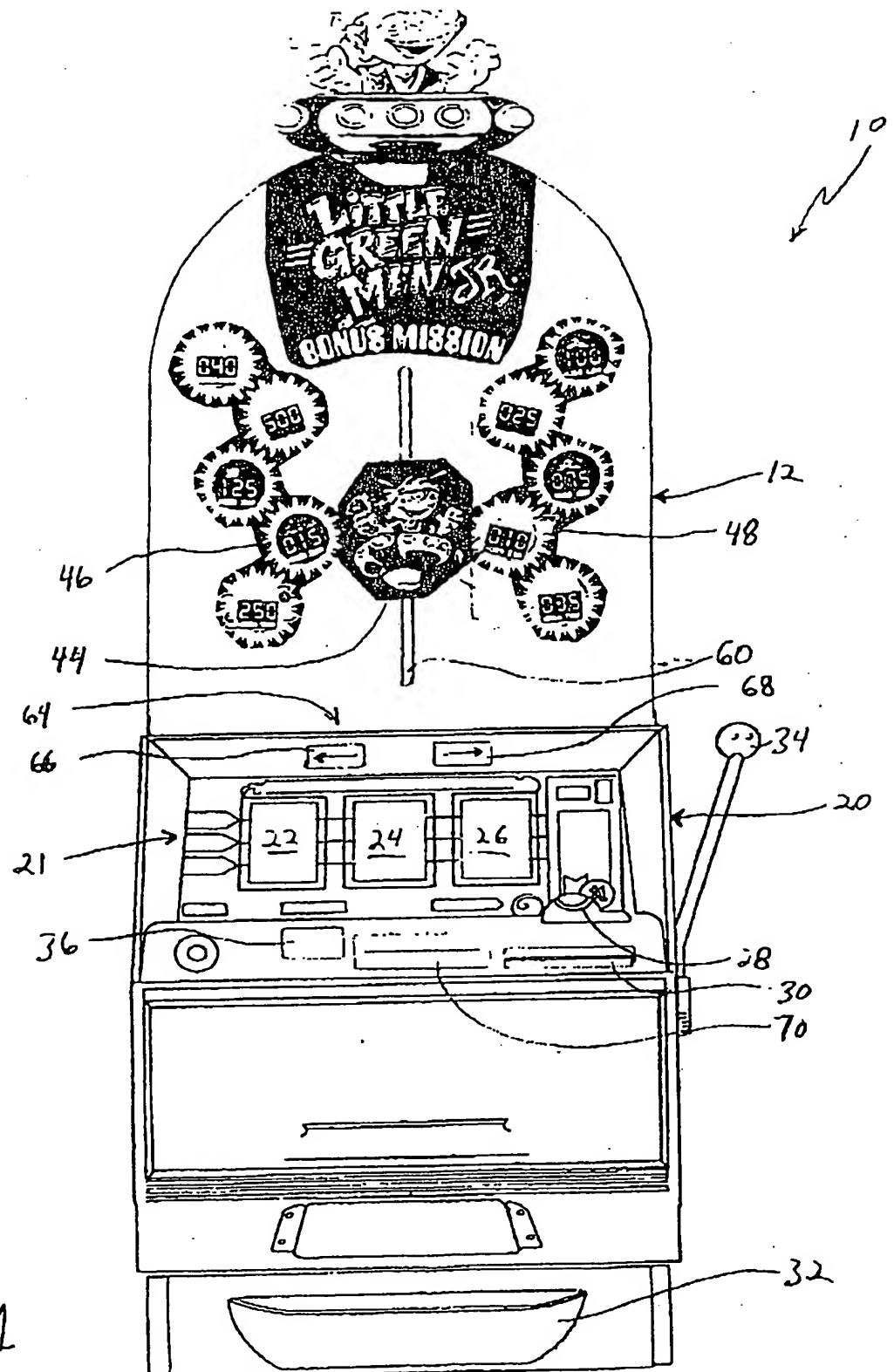


Fig. 1

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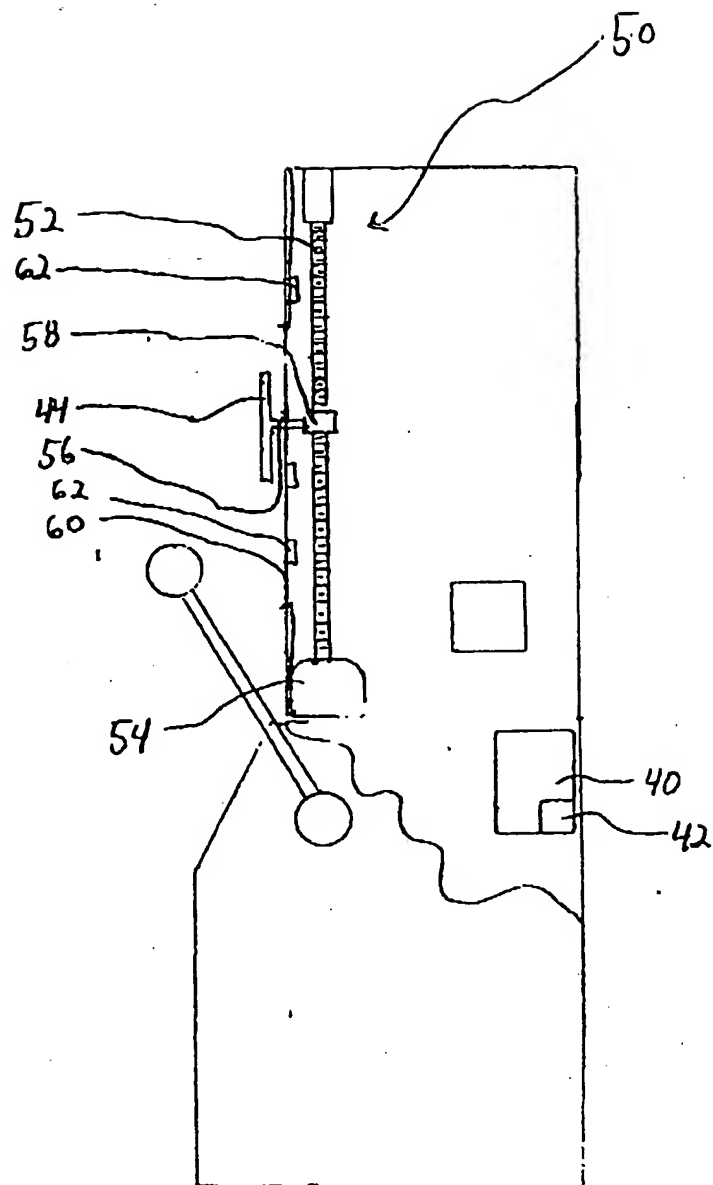


Fig. 2

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US01/29511

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) A63F 9/24

US CL. 163/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

US 163/16, 17, 18, 19, 20, 21, 22, 23, 26, 27, 30, 31, 37, 43, 44, 16, 17

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EAST

search terms gaming machines or gaming devices, bonus display, mechanical bonus indicator

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| X | US 5,848,932 A (ADAMS) 15 December 1998, Fig. 2; col. 2, lines 22-67, col. 3, lines 1-19, col. 4, lines 9-67, col. 5, lines 1-50, col. 6, lines 34-67, and col. 7, lines 6-10. | 1-23 |
| X,P | US 6,220,593 B1 (PIERCE et al) 24 April 2001, see entire document. | 1-23 |
| A | US 5,882,261 A (ADAMS) 16 MARCH 1999, see entire document. | 1-23 |



Further documents are listed in the continuation of Box C.



See patent family annex.

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